

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of the Claims:

1. (Currently amended) A reactive, oil and gas well shaped charge perforator comprising a liner and an associated shaped charge comprising a composition of at least two metals, whereby the liner is a green compacted particulate composition formed from a powder mixture of the comprising at least two metals elements, and whereby the liner is reactive such that the at least two metals elements which are capable, in operation, of participating in will undergo an intermetallic alloying reaction to give an exothermic reaction upon activation of the an associated shaped charge, and in which the at least two metals elements are provided in respective proportions calculated to give an electron concentration of 1.5, and wherein the composition further comprises at least one further inert metal, wherein the at least one further inert metal is not capable of an exothermic reaction with the at least two metals elements upon activation of the shaped charge liner.
2. (Previously presented) A liner according to claim 1 in which one of the metals is aluminium.
3. (Previously presented) A liner according to claim 1 in which one of the metals is selected from nickel and palladium.
4. (Cancelled)
5. (Previously presented) A liner according to claim 1, wherein a binder is added to aid consolidation.
6. (Previously presented) A liner according to claim 1, wherein at least one of the metals is coated with a binder.

7. (Previously presented) A liner according to claim 5, wherein the binder is selected from a polymer.
8. (Previously presented) A liner according to claim 7 wherein the binder is selected from a stearate, wax or epoxy resin.
9. (Original) A liner according to claim 7, wherein the polymer is an energetic polymer.
10. (Original) A liner according to claim 9, wherein the energetic binder is selected from Polyglyn (Glycidyl nitrate polymer), GAP (Glycidyl azide polymer) or Polynimmo (3-nitratomethyl-3-methyloxetane polymer).
11. (Previously presented) A liner according to claim 5, wherein the binder is selected from lithium stearate or zinc stearate.
12. (Previously presented) A liner according to claim 5, wherein the binder is present in the range of from 0.1 to 5% by mass.
13. (Previously presented) A liner according to claim 1, wherein the composition of at least two metals is particulate, the particles having a diameter 10 μm or less.
14. (Original) A liner according to claim 13, wherein the particles are 1 μm or less in diameter.
15. (Original) A liner according to claim 14, wherein the particles are 0.1 μm or less in diameter.
16. (Previously presented) A liner according to claim 1, wherein the thickness of liner is selected in the range of from 1 to 10% of the liner diameter.
17. (Original) A liner according to claim 16 wherein the thickness of liner is selected in the range of from 1 to 5% of the liner diameter.

18. (Previously presented) A liner according to claim 1, wherein the thickness of the liner is non-uniform across the surface area of the liner.

19. (Cancelled)

20. (Previously presented) A liner according to claim 1, wherein the at least one further metal is selected from copper, tungsten, or an alloy thereof.

21. (Previously presented) A shaped charge perforator comprising a liner according to claim 1.

22. (Previously presented) A perforator comprising a housing, a quantity of high explosive located within the housing and a liner according to claim 1 located within the housing so that the high explosive is positioned between the liner and the housing.

23. (Previously presented) A perforation gun comprising one or more shaped charge perforators according to claim 21.

24. (Previously presented) A method of completing an oil or gas well using one or more shaped charge liners according to claim 1.

25. (Previously presented) A method of completing an oil or gas well using a one or more shaped charge perforators, according to claim 21.

26. (Previously presented) A method of completing an oil or gas well using one or more perforation guns according to claim 23.

27. (Previously presented) A method of improving fluid outflow from a well comprising the step of perforating the well using one or more perforators according to claim 21.

28. (Cancelled)

29. (Previously presented) A liner according to claim 1 wherein the composition of at least two metals is a stoichiometric composition of two metals.

30. (Previously presented) A liner according to claim 1 in which one of the metals is selected from iron, molybdenum, nickel and palladium.

31-44. (Cancelled)

45. (Previously presented) A liner according to claim 6 wherein the binder is selected from a polymer.

46. (Currently amended) A reactive, oil and gas well shaped charge perforator comprising a liner and an associated shaped charge comprising a composition of at least two metals, whereby the liner is a green compacted particulate composition of the comprising at least two metals elements, and whereby the composition is reactive such that the at least two metals elements, which are capable, in operation, of an will undergo an intermetallic alloying reaction to give an exothermic reaction upon activation of the an associated shaped charge, and in which the at least two metals elements are provided in respective proportions calculated to give an electron concentration of 1.5, and wherein the shaped charge liner does not include a fluoropolymer oxidizing agent.